

SEP 14 2005

PTO/SB/30 (11-04)

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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PETITION FEE

Under 37 CFR 1.17(f), (g) & (h)

TRANSMITTAL

(Fees are subject to annual revision)

Send completed form to: Commissioner for Patents
P.O. Box 1450, Alexandria, VA 22313-1450

Application Number	10/820,129
Filing Date	April 8, 2004
First Named Inventor	Y. KAWAKUBO
Art Unit	
Examiner Name	
Attorney Docket Number	843.43760X00

Enclosed is a petition filed under 37 CFR §1.17(h) that requires a processing fee (37 CFR 1.17(f), (g), or (h)). Payment of \$130.00 is enclosed.

This form should be included with the above-mentioned petition and faxed or mailed to the Office using the appropriate Mail Stop (e.g., Mail Stop Petition), if applicable. For transmittal of processing fees under 37 CFR 1.17(i), see form PTO/SB/17i.

Payment of Fees (small entity amounts are NOT available for the petition (fees))

- ☒ The Commissioner is hereby authorized to charge the following fees to Deposit Account No. 50-1417:
- ☐ petition fee under 37 CFR 1.17(f), (g) or (h) ☒ any deficiency of fees and credit of any overpayments
- Enclose a duplicative copy of this form for fee processing.
- ☐ Check in the amount of \$ _____ is enclosed.
- ☒ Payment by credit card (From PTO-2038 or equivalent enclosed). Do not provide credit card information on this form.

Petition Fees under 37 CFR 1.17(f):**Fee \$400****Fee Code 1462**

For petitions filed under:

- § 1.53(e) - to accord a filing date.
 § 1.57(a) - to according a filing date.
 § 1.182 - for decision on a question not specifically provided for.
 § 1.183 - to suspend the rules.
 § 1.378(e) for reconsideration of decision on petition refusing to accept delayed payment of maintenance fee in an expired patent.
 § 1.741(b) - to accord a filing date to an application under §1.740 for extension of a patent term.

Petition Fees under 37 CFR 1.17(g):**Fee \$200****Fee code 1463**

For petitions filed under:

- §1.12 - for access to an assignment record.
 §1.14 - for access to an application.
 §1.47 - for filing by other than all the inventors or a person not the inventor.
 §1.59 - for expungement of information.
 §1.103(a) - to suspend action in an application.
 §1.136(b) - for review of a request for extension of time when the provisions of section 1.136(a) are not available.
 §1.295 - for review of refusal to publish a statutory invention registration.
 §1.296 - to withdraw a request for publication of a statutory invention registration filed on or after the date the notice of intent to publish issued.
 §1.377 - for review of decision refusing to accept and record payment of a maintenance fee filed prior to expiration of a patent.
 §1.550(c) - for patent owner requests for extension of time in ex parte reexamination proceedings.
 §1.956 - for patent owner requests for extension of time in inter partes reexamination proceedings.
 § 5.12 - for expedited handling of a foreign filing license.
 § 5.15 - for changing the scope of a license.
 § 5.25 - for retroactive license.

Petition Fees under 37 CFR 1.17(h):**Fee \$130****Fee Code 1464**

For petitions filed under:

- §1.19(g) - to request documents in a form other than that provided in this part.
 §1.84 - for accepting color drawings or photographs.
 §1.91 - for entry of a model or exhibit.
 §1.102(d) - to make an application special.
 §1.138(c) - to expressly abandon an application to avoid publication.
 §1.313 - to withdraw an application from issue.
 §1.314 - to defer issuance of a patent.

Name (Print/Type)

Carl I. Brundidge

Registration No. (Attorney/Agent)

29,621

Signature

Date

September 14, 2005

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



Applicants: Yosuke KAWAKUBO

Serial No.: 10/820,129

Filed: April 8, 2004

For: STORAGE UNIT

**PETITION TO MAKE SPECIAL
UNDER 37 CFR §1.102(MPEP §708.02)****MS Petition**Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

September 14, 2005

Sir:

Applicants hereby petition the Commissioner to make the above-identified application special in accordance with 37 CFR §1.102(d). Pursuant to MPEP §708.02(VIII), Applicants state the following.

(A) This Petition is accompanied by the fee set forth in 37 CFR §1.17(h).

The Commissioner is hereby authorized to charge any additional payment due, or to credit any overpayment, to Deposit Account No. 50-1417.

(B) All claims are directed to a single invention.

If the Office determines that all claims are not directed to a single invention, Applicant will make an election without traverse as a prerequisite to the grant of special status in conformity with established telephone restriction practice.

09/16/2005 HALI11 00000066 10820129

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(C) A pre-examination search has been conducted.

The search was directed towards a storage system. In particular, the search was directed towards a storage system with a cache memory to temporarily store the data written/read between a host machine and a storage device. The cache memory has a first power source to supply power in a normal operating mode. The cache memory also has a second power source to supply power in a backup operation mode.

The search of the above features was conducted in the following areas:

<u>Class</u>	<u>Subclasses</u>
711	111, 113
714	1, 5, 14

Additionally, a computer database search was conducted on the USPTO systems EAST.

(D) The following is a list of the references deemed most closely related to the subject matter encompassed by the claims:

<u>U.S. Patent Number</u>	<u>Inventors</u>
5,204,963	Noya et al
5,341,493	Yanai et al
5,414,861	Horning
5,784,548	Liong et al
5,905,994	Hori et al

A copy of each of these references (as well as other references uncovered during the search) is enclosed in an accompanying IDS.

(E) It is submitted that the present invention is patentable over the references for the following reasons.

It is submitted that the cited references, whether taken individually or in combination with each other, fail to teach or suggest the invention as claimed. In particular, the cited references, at a minimum, fail to teach or suggest as recited in the claims:

a first feature of the present invention as recited in independent claim 1 that a storage unit contains a first power source to supply, to cache memory, a voltage in a normal operation mode in which the data is written to/read from the cache memory, and a second power source to supply, to said cache memory, a voltage in a backup operation mode in which the data stored in the cache memory is retained.

To the extent applicable to the present Petition, Applicants submit that although the distinguishing feature(s) may represent a substantial portion of the claimed invention, the claimed invention including said feature(s) and their inter-operation provides a novel storage system and system and method related to or implemented in or by said storage system not taught or suggested by any of the references of record.

Further, the cited references fail to teach or suggest the above noted features of the present invention when taken in combination with other limitations recited in the claims.

The references considered most closely related to the claimed invention are briefly discussed below:

Noya (U.S. Patent No. 5,204,963) provides for a method and apparatus for a backup power controller for volatile random access memory. Discussed

is power controller 70 that selectively supplies power to cache memory 20 from either primary power supply 40 or backup power supply 50. (See column 3, lines 1-5; Figure 1).

However, Noya does not teach or suggest a voltage associated with a normal operation mode. Further, Noya does not teach or suggest a voltage associated with a backup operation mode.

More particularly, Noya at a minimum does not teach or suggest the above described first feature of the present invention as recited in independent claim 1 and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Yanai (U.S. Patent No. 5,341,493) provides for a disk storage system with write preservation during power failure. Discussed is uninterruptable power supply 24 that, upon detecting power failure, maintains power to disk adapters 20, cache 16, and disk drive unit 22 until all data write commands and associated data pending in cache 16 have been serviced. (See column 2, lines 58-60; Figure 1).

However, Yanai does not teach or suggest a voltage associated with a normal operation mode. Further, Yanai does not teach or suggest a voltage associated with a backup operation mode.

More particularly, Yanai at a minimum does not teach or suggest the above described first feature of the present invention as recited in independent claim 1 and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Horning (U.S. Patent No. 5,414,861) provides for a data protection system using different levels of reserve power to maintain data in volatile memories for any period of time. Discussed is power subsystem 12 that supplies power to volatile memory array 16. When an interruption of the AC power is detected, the supervisor circuit 38 immediately directs the switch circuit 36 to connect reserve power supply 34 to the primary and secondary power lines 22 and 24, thereby preventing data loss. (See column 6, lines 9-37; Figure 1).

However, Horning does not teach or suggest a voltage associated with a normal operation mode. Further, Horning does not teach or suggest a voltage associated with a backup operation mode.

More particularly, Horning at a minimum does not teach or suggest the above described first feature of the present invention as recited in independent claim 1 and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Liong (U.S. Patent No. 5,784,548) provides for a modular mirrored cache memory battery backup system. Discussed is cache memory system 300 including backup controller and selector 210. Backup controller and selector 210 monitors the state of power, and if V_{cc} drops below a threshold voltage, provides power from battery unit 220.

However, Liong does not teach or suggest a voltage associated with a normal operation mode. Further, Liong does not teach or suggest a voltage associated with a backup operation mode.

More particularly, Liong at a minimum does not teach or suggest the above described first feature of the present invention as recited in independent claim 1 and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Hori (U.S. Patent No. 5,905,994) provides for a magnetic disk controller for backing up cache memory. Discussed is cache memory 4, which is backed up by battery 5. When the main power supply is cut off due to a power failure or the like, data in the cache memory are backed up by the battery in order to protect the write data which is not written in the magnetic disk unit. (See column 3, lines 5-6 and lines 26-30; Figures 1 and 2).

However, Hori does not teach or suggest a voltage associated with a normal operation mode. Further, Hori does not teach or suggest a voltage associated with a backup operation mode.

More particularly, Hori at a minimum does not teach or suggest the above described first feature of the present invention as recited in independent claim 1 and further fails to teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Therefore, since the cited references at a minimum fail to teach or the above described first feature of the present invention as recited in independent claim 1, and further fails to teach or suggest these features of the present invention in combination with other limitations recited in the claims, it is submitted that all of the claims are patentable over the cited references

whether said references are taken individually or in combination with each other.

(F) Conclusion

Applicant has conducted what it believes to be a reasonable search, but makes no representation that "better" or more relevant prior art does not exist. The United States Patent and Trademark Office is urged to conduct its own complete search of the prior art, and to thoroughly examine this application in view of the prior art cited herein and any other prior art that the United States Patent and Trademark Office may locate in its own independent search. Further, while Applicant has identified in good faith certain portions of each of the references listed herein in order to provide the requisite detailed discussion of how the claimed subject matter is patentable over the references, the United States Patent and Trademark Office should not limit its review to the identified portions but rather, is urged to review and consider the entirety of each reference, and not to rely solely on the identified portions when examining this application.

In view of the foregoing, Applicant requests that this Petition to Make Special be granted and that the application undergo the accelerated examination procedure set forth in MPEP 708.02 VIII.

(G) Fee (37 C.F.R. 1.17(i))

The fee required by 37 C.F.R. § 1.17(i) is to be paid by:

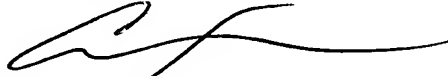
- ☒ the Credit Card Payment Form (attached) for \$130.00.
- ☐ charging Account _____ the sum of \$130.00.

A duplicate of this petition is attached.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (843.43760X00).

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.



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